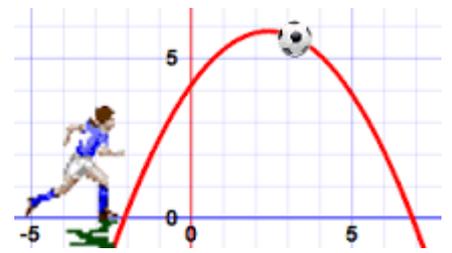


Year 11 Unit 2 Overview-**Quadratics and turning points:**

Target grade for tests:

You will be able to:



- Solve quadratic equations by completing the square
- Solve quadratic equations using the quadratic formula
- Work with iterative processes
- Deduce roots of quadratic functions by completing the square
- Deduce roots of quadratic functions algebraically
- Find and interpret gradients of chords and tangents
- Solve quadratic inequalities
- Solve simultaneous equations where one is a quadratic

Lesson Overview				Key Words		
<p><u>SOLVING QUADRATIC EQUATIONS</u></p> <ul style="list-style-type: none"> • Complete the square for a given quadratic expression • Apply completing the square to solve a quadratic equation • Know and apply the formula for solving a quadratic equation of the form $ax^2 + bx + c = 0$ • Solve equations involving fractions that can be rearranged into the form $ax^2 + bx + c = 0$ • Solve problems involving quadratic equations • Identify when iteration should be used to find approximate solutions to an equation <p><u>QUADRATIC FUNCTIONS</u></p> <ul style="list-style-type: none"> • Complete the square for a quadratic function • Know that 'in the form $(x + p)^2 - q$' implies that completing the square is required • Deduce the turning point of a quadratic function by completing the square • Deduce the roots of a quadratic function by factorising • Deduce the roots of a quadratic function using the completed square form • Apply the concept of average rate of change in numerical, algebraic and graphical contexts • Apply the concept of instantaneous rate of change in numerical, algebraic and graphical contexts • Solve practical problems involving quadratic functions and rates of change <p><u>SOLVING QUADRATIC INEQUALITIES AND SIMULTANEOUS EQUATIONS WHERE ONE IS A QUADRATIC</u></p> <ul style="list-style-type: none"> • Choose a quadratic function related to a quadratic inequality • Sketch the graph of the related quadratic function • Identify the roots of the related quadratic function • Use the graph to find, and state, the solution to a quadratic inequality • Make an appropriate substitution when solving simultaneous equations in two variables where one is quadratic • Manipulate and solve the resulting quadratic equation to find the values for one variable • Find the values of the second variable by substitution • Make connections between simultaneous equations and graphs 				<p>Refer to http://studymaths.co.uk/glossary.php for definitions of the key words</p> <p>Quadratic) equation Factorise Rearrange Complete the square Unknown Manipulate Maximum, minimum Parabola Recurrence relation Interval bisection</p> <p>Notation The form $(x + p)^2 - q$ usually implies that completing the square is required Recurrence relations are equations such as $x_{n+1} = 2x_n - 3$</p> <p>Function Complete the square Deduce Root Turning point, minimum, maximum Rate of change Chord Tangent Average rate of change Instantaneous rate of change</p> <p>Notation The form $(x + p)^2 - q$ usually implies that completing the square is required</p> <p>Unknown (Quadratic) inequality Variable Manipulate Solve Solution set Simultaneous equations Substitution Elimination</p> <p>Notation The inequality symbols: < (less than), > (greater than), ≤ (less than or equal to), ≥ (more than or equal to)</p>		
Research	Note-making	Group work & discussion	Memorisation	Precision & accuracy	Independence	Reflection

